groov EPIC® Processors

GRV-EPIC-PR1	Programmable automation controller, with Ignition 7
GRV-EPIC-PR2	Programmable automation controller, with increased RAM/storage & Ignition 8

groov EPIC Chassis

GRV-EPIC-CHS0	Processor and power supply only mounting chassis
GRV-EPIC-CHS4	4-module analog/digital/serial mounting chassis
GRV-EPIC-CHS8	8-module analog/digital/serial mounting chassis
GRV-EPIC-CHS16	16-module analog/digital/serial mounting chassis

groov EPIC Power Supplies

GRV-EPIC-PSAC	Power supply, 110–240 VAC
GRV-EPIC-PSDC	Power converter, 24–48 VDC
GRV-EPIC-PSPT	Pass-through power adapter, 11.4–12.6 VDC, up to 9 A

groov Analog Input Modules

GRV-IICTD-12	Analog input, temperature, ICTD, 12 channels
GRV-IMA-24	Analog input, 24 channels, configurable input ranges of 4–20 mA, 0–20 mA, ±20 mA
GRV-IMAI-8	Analog input, 0–20 mA, isolated, field or chassis-powered loop, 8 channels
GRV-ITM-12	Analog input, 12 channels, thermocouple or mV
GRV-ITMI-8	Analog input, 8 channels, thermocouple or mV, channel-to-channel isolation
GRV-IRTD-8	Analog input, temperature (RTD) or resistor, 8 channels
GRV-ITR-12	Analog input, 12 channels, temperature (thermistor) or resistor
GRV-IV-24	Analog voltage input, 24 channels, 8 configurable input ranges from ±1.25 V to ±160 VDC
GRV-IVAPM-3	Input, power monitoring, 3 phase, 600 VAC with 0.333 V, 1 V, or 5 A CT
GRV-IVI-12	Analog voltage input, 12 channels, configurable input ranges from ±1.25 to ±160 VDC, channel-to-channel isolation
GRV-IVIRMS-10	Analog RMS voltage input, 10 channels, 0-300 VAC/VDC, channel-to-channel isolation

groov Analog Output Modules

GRV-OVMALC-8	Analog output, 8 channels, voltage or current, chassis-powered loop
GRV-OVMAILP-8	Analog output, 8 channels, voltage or current, channel-to-channel isolation, field or chassis-powered loop

groov Discrete Input Modules

GRV-IAC-24	AC input, 24 channels, 85–140 VAC
GRV-IACS-24	AC input, 24 channels, 85–140 VAC, on/off state only
GRV-IACI-12	AC input, 12 channels, 85–140 VAC, channel-to-channel isolation
GRV-IACIS-12	AC input, 12 channels, 85–140 VAC, channel-to-channel isolation, on/off state only
GRV-IACHV-24	AC input, 24 channels, 180–280 VAC
GRV-IACHVS-24	AC input, 24 channels, 180–280 VAC, on/off state only
GRV-IACIHV-12	AC input, 12 channels, 180–280 VAC, channel-to-channel isolation
GRV-IACIHVS-12	AC input, 12 channels, 180–280 VAC, channel-to-channel isolation, on/off state only
GRV-IDC-24	DC input, 24 channels, 15–30 V
GRV-IDCS-24	DC input, 24 channels, 15–30 V, on/off state only
GRV-IDCSW-12	DC input, 12 channels, switch status
GRV-IDCI-12	AC/DC discrete input, 12 channels, 10–30 VDC, 10–25 VAC, channel-to-channel isolation
GRV-IDCIS-12	DC input, 12 channels, 10–30 V, channel-to-channel isolation, on/off state only
GRV-IDCIFQ-12	DC input, 12 channels, 2.5–30 V, channel-to-channel isolation, high speed, quadrature
GRV-IACDCTTL-24	AC/DC input, polarity insensitive, 24 channels, 2–16 V AC/DC
GRV-IACDCTTLS-24	AC/DC input, polarity insensitive, 24 channels, 2–16 V AC/DC, on/off state only

groov Discrete Output Modules

GRV-OAC-12	AC output, 12 channels, 12–250 VAC
GRV-OACS-12	AC output, 12 channels, 12–250 VAC, on/off only
GRV-OACI-12	AC output, 12 channels, 12–250 VAC, channel-to-channel isolation
GRV-OACIS-12	AC output, 12 channels, 12–250 VAC, channel-to-channel isolation, on/off only
GRV-ODCI-12	DC output, 12 channels, 5–60 VDC, channel-to-channel isolation
GRV-ODCIHC-12	DC output, 12 channels, 0-60 VDC, 6 A, channel-to-channel isolation
GRV-ODCIHV-12	DC output, 12 channels, 0-150 VDC, channel-to-channel isolation
GRV-ODCIS-12	DC output, 12 channels, 5–60 VDC, channel-to-channel isolation, on/off only
GRV-ODCSRC-24	DC output, 24 channels, 5–60 VDC, sourcing
GRV-OMRIS-8	AC/DC output, 8 channels, mechanical relay, 0–250 VAC/5–30 VDC, 5 A

groov Universal I/O Modules

GRV-MM1001-10	8 multifunction, mixed signal channels; 2 form C electromechanical relay output channels

groov Serial Modules

GRV-CCANI-2	Serial communication, 2 channels, CAN, channel-to-channel isolation
GRV-CSERI-4	Serial communication, 4 channels, RS-232 or RS-485, channel-to-channel isolation

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groov RIO Modules

Intelligent I/O modules that can work independently as data acquisition points in Node-RED flows and custom control programs, or as remote I/O units in CODESYS applications and PAC Control strategies.

GRV-R7-MM1001-10	(*groov* RIO MM1) Remote universal I/O; 8 software-configurable channels; 2 form C electromechanical relay output channels
GRV-R7-MM2001-10	(*groov* RIO MM2) Remote universal I/O; 8 software-configurable channels; 2 form C electromechanical relay output channels, Ignition 8
GRV-R7-I1VAPM-3	*groov* RIO edge EMU; 3-phase power and energy monitoring, 18 data & accumulation values per phase; 10 summation values

Software

groov RIO modules come with *groov* Manage, CODESYS® Runtime, Node-RED, and Secure Shell pre-installed. *groov* RIO MM2 modules also include Ignition Edge® 8 pre-installed. Order the following licenses below for activation keys for CODESYS, Secure Shell and Ignition Edge.

GROOV-LIC-CRE	*groov* EPIC/RIO license for CODESYS Runtime
GROOV-LIC-EDGE8	*groov* EPIC/RIO license for Ignition Edge version 8
GROOV-LIC-SHELL	*groov* EPIC/RIO license for Secure Shell access

groov EPIC processors come with *groov* Manage, *groov* View, PAC Control Runtime, and Node-RED, ready to run out-of-the-box. The processor also comes with CODESYS® Runtime, Ignition Edge, and Secure Shell pre-installed; order the following license products to receive activation keys for these products :

GROOV-LIC-CRE	*groov* EPIC /RIOlicense for CODESYS Runtime
GROOV-LIC-EDGE	*groov* EPIC license for Ignition Edge version 7
GROOV-LIC-EDGE8	*groov* EPIC/RIO license for Ignition Edge version 8
GROOV-LIC-SHELL	*groov* EPIC/RIO license for Secure Shell access

groov EPIC & *groov* RIO Accessories

GRV-TERM26-5	*groov* I/O module terminal, 5 pack
GRV-TERMG26-5	*groov* I/O module terminal, gray, for thermocouple modules, 5-pack
GRV-TERMPM13-5	*groov* I/O module terminal, for power-monitoring modules, 5-pack
GRV-TEX-26F6	26-wire cable for *groov* I/O and *groov* RIO modules. Straight-through; no common terminals. Flying leads.
GRV-TEX-SCTOOL	*groov* spring clamp terminal tool
GRV-TEX-RCTM-5	*groov* RIO cable tie push mount, 5 pack
GRV-ENC-POLY-SM	*groov* EPIC/RIO enclosure, 1–2 devices/chassis, polycarbonate, wall or panel mount, IP65
GRV-ENC-POLY-MD	*groov* EPIC/RIO enclosure, 1–4 devices/chassis, polycarbonate, wall or panel mount, IP69
GRV-EPIC-BATT-BR2032-3	Pack of 3 replacement batteries for GRV-EPIC-PR1 and GRV-EPIC-PR2
GRV-EPIC-PSAC-FUSE-5	Pack of 5 2-amp 250 V slow fuses for the GRV-EPIC-PSAC power supply
GRV-EPIC-PSDC-FUSE-5	Pack of 5 4-amp 250 V slow fuses for the GRV-EPIC-PSDC power converter
GRV-EPIC-PSPT-FUSE-5	Pack of 5 10-amp 125 V fast fuses for the GRV-EPIC-PSPT power adapter

groov EPIC & *groov* RIO Learning Centers

GRV-EPIC-LC2	*groov* EPIC Learning Center
GRV-RIO-LC	*groov* RIO Learning Center (includes GRV-R7-MM1001-10)
GRV-RIO2-LC	*groov* RIO Learning Center (includes GRV-R7-MM2001-10 module, which adds Ignition and Ignition Edge® software from Inductive Automation®)

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- Web-based commissioning, troubleshooting, and *groov* View HMI display
- LCD touch display
- Dual USB ports for serial communications, touchscreen monitors, or WiFi adapters
- HDMI port for external monitors
- Dual independent Gigabit Ethernet network interfaces
- Chassis for 0, 4, 8, or 16 *groov* I/O modules (discrete, analog, serial, universal I/O)
- Control, display, and IIoT software:
  - PAC Project Basic
  - CODESYS with IEC 61131-3 languages
  - Ignition/Ignition Edge with PLC drivers
  - MQTT/Sparkplug B
  - *groov* View HMI
  - Node-RED

groov I/O module features:

- LEDs indicate module health and channel status
- Pivoting, two-position cover
- Touch-sensitive pad
- Hot swappable



Power supply available in three models:

- AC power supply
- DC power converter
- Pass-through power adapter

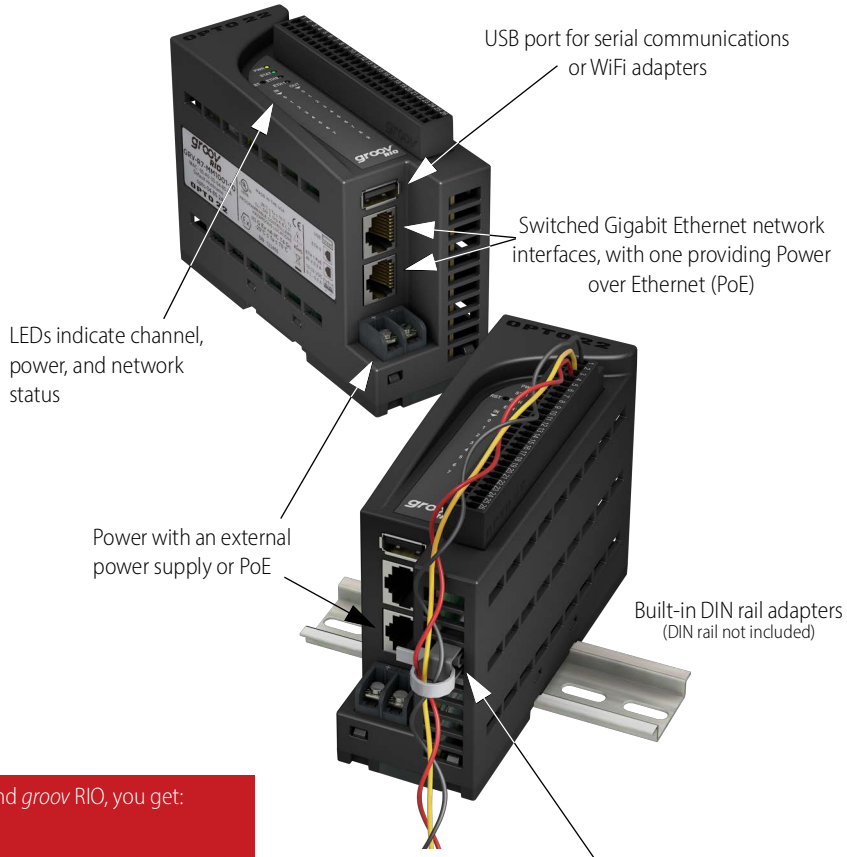
Chassis available in four models:

- 0-module
- 4-module (shown)
- 8-module
- 16-module

With both *groov* EPIC and *groov* RIO, you get:

- *groov* Manage
- Node-RED
- Removable terminal connector
- UL Hazardous Locations approval and ATEX compliance

- Models available for energy monitoring and for multifunction/mixed signal configuration
- Software-configurable channels
- Power over Ethernet (PoE) can supply power to module and I/O, or connect a 10–32 VDC power supply.
- Collect and publish data:
  - MQTT/Sparkplug B
  - Node-RED
  - Ignition/Ignition Edge (MM2 model only)



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